FIELDING FORWARD

MAJ John C. Matthews and MAJ Dana Goulette

Introduction

The events of September 11, 2001, caught America by surprise, our sense of security and safety shattered in the span of just a few hours. Our Army, in the middle of transformation, found itself deploying its current force to a land-locked country thousands of miles away to hunt down elusive terrorists—a task not on anyone's Mission Essential Task List.

Units from the 101st Airborne Division (Air Assault), Fort Campbell, KY, were the first large-scale conventional forces on the ground in Afghanistan. During Operation Anaconda, these forces confronted Taliban and Al Qaeda forces entrenched in some of the most rugged terrain in the world. In the early stages of the conflict, Special Operations Forces (SOF) used precision-guided munitions against buildings, troop and vehicle concentrations, caves, and suspected terrorist hideouts. However, they didn't have a reliable, lightweight targeting system specifically designed for use with these types of missions. Their current systems were too heavy and became a major hindrance in the extremely unforgiving terrain of Afghanistan. Project Manager, Night Vision/Reconnaissance, Surveillance and Target Acquisition (PM, NV/RSTA) and Product Manager, Forward Looking Infrared (PM, FLIR) at Fort Belvoir, VA, accepted the demanding task of filling this critical capability shortfall by deploying during wartime to field two systems, the Viper and the Long Range Advanced Scout Surveillance System (LRAS3), and to train warfighters on both.

The Viper

In just 71 days, PM, NV/RSTA, at the direction of the Vice Chief of Staff of the Army, provided 24 Viper systems to Task Force Rakkasan (3rd Brigade, 101st Airborne Division) in Afghanistan. The Viper is a combination of a commercial off-the-shelf item and current equipment in the Army inventory. The Viper system is simple to operate, man-portable, and provides observation and far target location capabilities for day and night operations. The system is capable of measuring three object distances at once. It also enhances fall-of-shot adjustments between round impact and the intended target, allowing forward observers to provide accurate target locations for the guided munitions.

The Viper consists of three major components:

- The Vector IV, produced by a Swiss optics manufacturing firm (Leica), which combines 7 by 42mm binoculars, an eye-safe laser range finder, a digital magnetic compass, and an inclinometer to create a system that provides target range, azimuth, and vertical angle measurements to the operator. The Vector IV is also capable of exporting this information to the AN/PSN-11 (V)1 Precision Lightweight Global Positioning System Receiver (PLGR).
- The PLGR is government-furnished equipment (GFE) with +96 software that provides self-position and calculates target location after data transfer from the Vector IV.
- Attached to the Vector IV by way of an adaptor is the AN/PVS-14 Monocular Night Vision Device. It provides the Viper with a night-operations capability using an ungated image intensification tube.

The Viper fielding team consisted of Assistant Product Manager (APM) MAJ John C. Matthews, PM, NV/RSTA; Systems Integrator CW4 James "Tim" Edwards, Precision Strike Division Army G-8; and a three-man training team from the U.S. distributor of the Vector IV. Between April 10-27, 2002, the team trained 60 fire-support soldiers with five 3-day courses, which accommodated 12 soldiers each. The team trained primary and secondary operators and their supervisors as well as provided refresher training.

LRAS3

In March 2002, the U.S. Army Special Operations Command (USASOC) asked PM, NV/RSTA about the possibility of being issued a limited number of LRAS3s for use by SOF units in Afghanistan. Because SOF units are not on the LRAS3 Basis of Issue Plan, PM, NV/RSTA, working with USASOC, obtained approval from the Army G-3 to divert four systems from units at Fort Hood, TX, to USASOC.

Managed by PM, FLIR, the LRAS3 consists of a Second Generation FLIR sensor with long-range optics, eye-safe laser rangefinder, day video camera, and a Global Positioning System with attitude determination. The LRAS3 allows for detection of long-range targets and 10-digit grid coordinates of any target within range.

The LRAS3 is being fielded to mechanized infantry and armor Scout platoons and Stryker Brigade Combat Team reconnaissance squadrons. The system can operate in the dismounted configuration or can be mounted on the M1025 series High Mobility Multipurpose Wheeled Vehicle or Stryker vehicle. USASOC representatives stated that the systems would be used in a force-protection role from static locations.

SOF soldiers initially indicated a desire to operate only in the dismounted mode and wanted to have the capability of using 110- or 220-volt AC power, a feature not available on fielded LRAS3s. Therefore, PM, NV/RSTA personnel worked with the LRAS3 prime contractor, Raytheon, to develop a power system similar to the classroom power system used during new equipment training to meet this requirement. However, when MAJ Dana Goulette, PM, NV/RSTA, and SFC Thomas M. Owens, U.S. Army Armor Center, deployed to Afghanistan in May 2002, they immediately learned that the units in theater had different plans for the system. The LRAS3 was not used in static positions for force-protection purposes, but rather in mobile reconnaissance and surveillance roles conducted in pickup trucks and 6 by 6 all-terrain vehicles.

From June 2-12, 2002, the LRAS3 team conducted "train-the-trainer" training in Afghanistan for two different units in geographically separate locations. Because the SOF operational

tempo was so demanding and unit sizes were small, getting people to the training was difficult. The LRAS3 team trained 18 trainers during this timeframe, recommended movement and employment techniques, and remained in country to ensure thorough understanding of the system. PM, NV/RSTA used the train-the-trainer approach because of the high caliber soldiers being trained and their need to be able to train replacement soldiers and soldiers in outlying firebases.

Observations

Not all units have the optimal equipment necessary for the wide variety of missions they may be asked to undertake. The reasons are many: budget constraints, production capacity, fielding priorities, weight and cubic volume considerations, etc. However, when the acquisition community can meet an urgent need, it must. This is especially true of project management offices (PMOs) such as PM, NV/RSTA and PM, FLIR, which oversee numerous individual product lines relating to night vision, reconnaissance, surveillance, and target acquisition. Army PMO personnel must have expertise, not just about their own systems, but also about other systems available worldwide. For instance, when the 101st voiced a valid concern about an operational shortcoming that could not be solved using an item already available in product lines, PM, NV/RSTA identified and employed Swiss binoculars with GFE hardware and software from other PMOs to rectify the problem.

In urgent-need scenarios, the acquisition community must deploy and field in theater. PMO personnel will gain an appreciation for the conditions and environment in which equipment is used. They will also become intimate with the skill levels of soldiers being trained. This interaction between the warfighter and the acquisition world benefits both, allowing the PM to ensure that training has been done properly while simultaneously allowing soldiers access to the PM for immediate retraining. Additionally, most PMs have conducted prior fieldings and can talk to the deployed unit about how other units are employing the equipment during operations.

Viper Binocular Laser Range Finder

Deployed SOF units did not possess a long-range night capability. This is a tremendous shortcoming in a desert environment like Afghanistan where we gain the most advantage from our advanced FLIR technology. One reason for this is the Army's practice of often issuing equipment based on the smallest common denominator (basis of issue)—one per soldier, one per squad, two per Special Forces A Team, etc. This mentality sometimes makes current product line items deemed too expensive, too heavy, or too bulky to pursue, leaving some units with deficiencies in capability. Some systems provide a needed functionality that could be issued on the order of two per battalion or a handful per brigade. For example, the LRAS3, currently being issued only in mechanized infantry and armor Scouts, would be a critical asset in a Forward Support Battalion in its force-protection mission.

Conclusion

Our job in the Acquisition Corps is to field effective and supportable systems to warfighters so that they may accomplish assigned missions. Because the conflict in Afghanistan requires units to adapt and conduct missions for which they are not specifically equipped, critical operational shortcomings have been identified. Although many reforms have improved the acquisition process, a rapidly changing world makes the task of fielding relevant systems to the Army more difficult than ever. The acquisition community must be responsive to these challenges and must be prepared to deploy forward and address these shortcomings in innovative ways.

Long Range Advanced Scout Surveillance System

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